



## DEPARTMENT OF ENERGY

### 10 CFR Part 430

[EERE-2013-BT-TP-0050]

RIN 1904-AD88

## Energy Conservation Program: Energy Conservation Standards and Test Procedures for Ceiling Fans

**AGENCY:** Office of Energy Efficiency and Renewable Energy, Department of Energy.

**ACTION:** Final rule; technical amendments.

**SUMMARY:** The U.S. Department of Energy (“DOE”) is publishing this final rule to amend the current regulations for large-diameter ceiling fans. The contents of these technical amendments correspond with provisions enacted by Congress through the Energy Act of 2020. This final rule also implements conforming amendments to the ceiling fan test procedure to ensure consistency with the Energy Act of 2020.

**DATES:** The effective date of this rule is [INSERT DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]. The incorporation by reference of certain publications listed in the rule is approved by the Director of the Federal Register on [INSERT DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]. The incorporation by reference of a certain other publication listed in this rulemaking was approved by the Director of the Federal Register on August 24, 2016.

**FOR FURTHER INFORMATION CONTACT:** Mr. Jeremy Domm, U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Building Technologies Program, EE-2J, 1000 Independence Avenue, SW., Washington, DC, 20585-0121. Telephone: (202) 586-9870. E-mail: [ApplianceStandardsQuestions@ee.doe.gov](mailto:ApplianceStandardsQuestions@ee.doe.gov).

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## **SUPPLEMENTARY INFORMATION:**

DOE maintains a previously approved incorporation by reference and incorporates by  
reference the following industry standard into 10 CFR part 430:

Air Movement and Control Association International, Inc. ("AMCA") ANSI/AMCA  
Standard 208-18, ("AMCA 208-18"), "Calculation of the Fan Energy Index," ANSI  
approved January 24, 2018.

Copies of AMCA 208-18 may be purchased from AMCA International at 30 W.  
University Drive, Arlington Heights, IL, 60004, or by going to *www.amca.org*.

See section V.M of this document for further discussion of this standard.

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## **I. Authority and Background**

The Energy Policy and Conservation Act, as amended (“EPCA”),<sup>1</sup> authorizes DOE to regulate the energy efficiency of a number of consumer products and certain industrial equipment. (42 U.S.C. 6291–6317) Title III, Part B<sup>2</sup> of EPCA established the Energy Conservation Program for Consumer Products Other Than Automobiles, which sets forth a variety of provisions designed to improve energy efficiency. These products include ceiling fans, the subject of this document. (42 U.S.C. 6291(49), 42 U.S.C. 6293(b)(16)(A)(i) and (B), and 42 U.S.C. 6295(ff))

On January 19, 2017, DOE published a final rule amending the energy conservation standards for ceiling fans. 82 FR 6826 (“January 2017 Final Rule”). Compliance with the amended standards was required beginning January 21, 2020.<sup>3</sup> The current energy conservation standards for ceiling fans are located in title 10 of the Code of Federal Regulations (“CFR”) section 430.32(s), and specify the statutorily-prescribed design standards (see 42 U.S.C. 6295(ff)(1)(A)) and the minimum efficiency standards established in the January 2017 Final Rule. The minimum efficiency standards established in the CFR are prescribed in terms of cubic feet per minute (“CFM”) per watt (“CFM/W”). 10 CFR 430.32(s)(2). The currently-applicable DOE test procedures for ceiling fans are established at 10 CFR part 430, subpart B, appendix U, Uniform Test Method for Measuring the Energy Consumption of Ceiling Fans (“Appendix U”).

Section 1008 of the Energy Act of 2020 (the “Act”) amended section 325(ff)(6) of EPCA to specify that large-diameter ceiling fans manufactured on or after January 21, 2020, are not required to meet minimum ceiling fan efficiency requirements in terms of the total airflow to the total power consumption, CFM/W, as established in the January 2017 Final Rule, but instead meet minimum efficiency requirements based on the Ceiling Fan Energy Index (“CFEI”) metric. (42 U.S.C. 6295(ff)(6)(C)(i)(I), as codified) The Act requires large-diameter ceiling fans to have

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<sup>1</sup> All references to EPCA in this document refer to the statute as amended through the Energy Act of 2020, Public Law 116-260 (Dec. 27, 2020).

<sup>2</sup> For editorial reasons, upon codification in the U.S. Code, Part B was redesignated Part A.

<sup>3</sup> DOE published a confirmation of rulemaking notice announcing the completion of a review of the final rule amending energy conservation standards for ceiling fans published on January 19, 2017 and confirming that compliance date of that final rule remained January 21, 2020. 82 FR 23723 (May 24, 2017).

a CFEI greater than or equal to 1.00 at high speed and 1.31 at 40 percent speed or the nearest speed that is not less than 40 percent speed. (42 U.S.C. 6295(ff)(6)(C)(i)(II), as codified) Further, the Act specifies that CFEI is to be calculated in accordance with American National Standards Institute ANSI/Air Movement and Control Association International, Inc., AMCA Standard 208-18, “Calculation of Fan Energy Index,” with the following modifications: (I) Using an Airflow Constant ( $Q_0$ ) of 26,500 cubic feet per minute; (II) Using a Pressure Constant ( $P_0$ ) of 0.0027 inches water gauge; and (III) Using a Fan Efficiency Constant ( $\eta_0$ ) of 42 percent. (42 U.S.C. 6295(ff)(6)(C)(ii), as codified) Finally, section 1008(b) of the Act states that for the purposes of the periodic review requirements in section 325(m) of EPCA, the standard established in the Act shall be treated as if such standard was issued on January 19, 2017. This final rule codifies those provisions of the Act related to large-diameter ceiling fans.

## **II. Amendments to Codify the Act in the CFR**

In this final rule, DOE is amending 10 CFR 430.3, 10 CFR 430.32, and Appendix U to codify the Act. Section 430.3 lists the procedures and documents that are incorporated by reference for use in DOE standards and test procedures. DOE is amending this section by adding a reference to ANSI/AMCA 208-18.

Section 430.32(s)(2) specifies the minimum efficiency requirements for ceiling fans, including large-diameter ceiling fans. DOE is amending this section by removing the minimum efficiency requirements (in terms of CFM/W) for large-diameter ceiling fans in §430.32(s)(2)(i). DOE is further amending this section by redesignating §430.32(s)(2)(ii) as §430.32(s)(2)(iii) and adding a new §430.32(s)(2)(ii) that specifies the new CFEI energy conservation standard for large-diameter ceiling fans as prescribed by the Act.

Appendix U provides the uniform test method for measuring the energy consumption of ceiling fans. DOE is amending Appendix U by adding a new section 5 entitled “Calculation of Ceiling Fan Energy Index (CFEI) From the Test Results for Large-Diameter Ceiling Fans,”

which specifies the method for calculating CFEI as prescribed by the Act, *i.e.*, according to AMCA 208-18, with the assumed values for airflow constant, pressure constant, and fan efficiency constant.

### **III. Conforming Amendments to the Ceiling Fan Test Procedure**

Consistent with the codification of the ceiling fan provisions of the Act, DOE is also implementing conforming amendments in Appendix U to remove obsolete and conflicting provisions and to revise potentially confusing language. For large-diameter ceiling fans, Appendix U continues to reference ANSI/AMCA Standard 230-15 (“AMCA 230-15”), “Laboratory Methods of Testing Air Circulating Fans for Rating and Certification,” (incorporated by reference in §430.3(b)(3)) to determine airflow (in CFM) and power consumption (in Watts), which are inputs to the CFEI metric described in AMCA 208-18.

However, because of the Act, Appendix U no longer needs to include provisions to calculate a ceiling fan efficiency (CFM/W) of large-diameter ceiling fans and provisions related to testing large-diameter ceiling fans at speeds other than high speed and 40 percent speed (or the nearest speed that is not less than 40 percent speed). Accordingly, these conforming amendments: (1) remove the definitions of “20% speed,” “60% speed,” and “80% speed” from section 1 (Definitions); (2) amend section 3.5(1) to refer to testing large-diameter ceiling fans only at high speed and at 40 percent speed (or the nearest speed that is not less than 40 percent speed) and remove Table 2 (Speeds To Be Tested for Large-Diameter Ceiling Fans) from that section; (3) amend section 3.5(2) to remove any requirements for speeds besides 40 percent speed and update the example to reference average measured RPM with respect to 40 percent speed; (4) amend the title for section 4 (Calculation of Ceiling Fan Efficiency From the Test Results) to specify that the section only applies to high-speed small diameter and low-speed small diameter ceiling fans; (5) remove the reference to large-diameter ceiling fans in section 4(3); and (6) remove the operating hours corresponding to large-diameter ceiling fans in Table 3

(Daily Operating Hours for Calculating Ceiling Fan Efficiency), as well as the corresponding table note.

#### **IV. Final Action**

DOE has determined, pursuant to 5 U.S.C. 553(b)(B), that prior notice and an opportunity for public comment on this final rule are unnecessary. Given the applicable statutory requirement enacted by Congress to require large-diameter ceiling fans to comply with energy conservation standards based on CFEI (rather than CFM/W), and the absence of any benefit in providing comment given that the rule incorporates the specific requirements established by the Energy Act of 2020 and conforming amendments, DOE finds that good cause exists to waive prior notice and an opportunity for public comment on the actions presented in this document to implement the provisions of the Energy Act of 2020 relevant to large-diameter ceiling fans. For the same reasons, DOE finds good cause pursuant to 5 U.S.C. 553(d)(3) to waive the 30-day delay in effective date for this rule.

#### **V. Procedural Issues and Regulatory Review**

##### *A. Review Under Executive Order 12866*

This final rule is not a “significant regulatory action” under any of the criteria set out in section 3(f) of Executive Order 12866, “Regulatory Planning and Review.” 58 FR 51735 (October 4, 1993). Accordingly, this action was not subject to review by the Office of Information and Regulatory Affairs (OIRA) in the Office of Management and Budget (OMB).

##### *B. Review Under the Regulatory Flexibility Act*

The Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*) requires preparation of a final regulatory flexibility analysis (FRFA) for any final rule where the agency was first required by law to publish a proposed rule for public comment, unless the agency certifies that the rule, if promulgated, will not have a significant economic impact on a substantial number of small entities. As required by Executive Order 13272, “Proper Consideration of Small Entities in Agency Rulemaking,” 67 FR 53461 (August 16, 2002), DOE published procedures and policies

on February 19, 2003 to ensure that the potential impacts of its rules on small entities are properly considered during the DOE rulemaking process. 68 FR 7990. DOE has made its procedures and policies available on the Office of the General Counsel's website:

<https://energy.gov/gc/office-general-counsel>. DOE is revising the Code of Federal Regulations to incorporate, revised requirements for large-diameter ceiling fans prescribed by Public Law 116-260, and conforming amendments. Because this is a technical amendment for which a general notice of proposed rulemaking is not required, the analytical requirements of the Regulatory Flexibility Act do not apply to this rulemaking.

*C. Review Under the Paperwork Reduction Act of 1995*

Manufacturers of ceiling fans must certify to DOE that their products comply with any applicable energy conservation standards. To certify compliance, manufacturers must first obtain test data for their products according to the DOE test procedures, including any amendments adopted for those test procedures. DOE has established regulations for the certification and recordkeeping requirements for all covered consumer products and commercial equipment, including ceiling fans. (See generally 10 CFR part 429.) The collection-of-information requirement for the certification and recordkeeping is subject to review and approval by OMB under the Paperwork Reduction Act (PRA). This requirement has been approved by OMB under OMB control number 1910-1400. Public reporting burden for the certification is estimated to average 35 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

Notwithstanding any other provision of the law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with, a collection of information subject to the requirements of the PRA, unless that collection of information displays a currently valid OMB Control Number.

*D. Review Under the National Environmental Policy Act of 1969*

Pursuant to the National Environmental Policy Act (“NEPA”) of 1969, DOE has analyzed this proposed action in accordance with NEPA and DOE’s NEPA implementing regulations (10 CFR part 1021). DOE has determined that this rule qualifies for categorical exclusion under 10 CFR part 1021, Subpart D, Appendix A5 because it is an interpretive rulemaking that does not change the environmental effect of the rule and meets the requirements for application of a categorical exclusion. See 10 CFR 1021.410. Therefore, DOE has determined that promulgation of this rule is not a major Federal action significantly affecting the quality of the human environment within the meaning of NEPA, and does not require an environmental assessment or environmental impact statement.

*E. Review Under Executive Order 13132*

Executive Order 13132, “Federalism,” 64 FR 43255 (August 4, 1999), imposes certain requirements on agencies formulating and implementing policies or regulations that preempt State law or that have Federalism implications. The Executive Order requires agencies to examine the constitutional and statutory authority supporting any action that would limit the policymaking discretion of the States and to carefully assess the necessity for such actions. The Executive Order also requires agencies to have an accountable process to ensure meaningful and timely input by State and local officials in the development of regulatory policies that have Federalism implications. On March 14, 2000, DOE published a statement of policy describing the intergovernmental consultation process it will follow in the development of such regulations. 65 FR 13735. DOE examined this final rule and determined that it will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. EPCA governs and prescribes Federal preemption of State regulations as to energy conservation for the products that are the subject of this final rule. States can petition DOE for exemption from such preemption to the extent, and based on criteria, set forth in EPCA. (42 U.S.C. 6297(d)) No further action is required by Executive Order 13132.



*F. Review Under Executive Order 12988*

Regarding the review of existing regulations and the promulgation of new regulations, section 3(a) of Executive Order 12988, “Civil Justice Reform,” 61 FR 4729 (Feb. 7, 1996), imposes on Federal agencies the general duty to adhere to the following requirements: (1) eliminate drafting errors and ambiguity; (2) write regulations to minimize litigation; (3) provide a clear legal standard for affected conduct rather than a general standard; and (4) promote simplification and burden reduction. Section 3(b) of Executive Order 12988 specifically requires that Executive agencies make every reasonable effort to ensure that the regulation (1) clearly specifies the preemptive effect, if any; (2) clearly specifies any effect on existing Federal law or regulation; (3) provides a clear legal standard for affected conduct while promoting simplification and burden reduction; (4) specifies the retroactive effect, if any; (5) adequately defines key terms; and (6) addresses other important issues affecting clarity and general draftsmanship under any guidelines issued by the Attorney General. Section 3(c) of Executive Order 12988 requires Executive agencies to review regulations in light of applicable standards in sections 3(a) and 3(b) to determine whether they are met or it is unreasonable to meet one or more of them. DOE has completed the required review and determined that, to the extent permitted by law, this final rule meets the relevant standards of Executive Order 12988.

*G. Review Under the Unfunded Mandates Reform Act of 1995*

Title II of the Unfunded Mandates Reform Act of 1995 (“UMRA”) requires each Federal agency to assess the effects of Federal regulatory actions on State, local, and Tribal governments and the private sector. Public Law 104-4, sec. 201 (codified at 2 U.S.C. 1531). For a regulatory action resulting in a rule that may cause the expenditure by State, local, and Tribal governments, in the aggregate, or by the private sector of \$100 million or more in any one year (adjusted annually for inflation), section 202 of UMRA requires a Federal agency to publish a written statement that estimates the resulting costs, benefits, and other effects on the national economy. (2 U.S.C. 1532(a), (b)) The UMRA also requires a Federal agency to develop an effective

process to permit timely input by elected officers of State, local, and Tribal governments on a proposed “significant intergovernmental mandate,” and requires an agency plan for giving notice and opportunity for timely input to potentially affected small governments before establishing any requirements that might significantly or uniquely affect small governments. On March 18, 1997, DOE published a statement of policy on its process for intergovernmental consultation under UMRA. 62 FR 12820; also available at <https://energy.gov/gc/office-general-counsel>. DOE examined this final rule according to UMRA and its statement of policy and determined that the rule contains neither an intergovernmental mandate, nor a mandate that may result in the expenditure of \$100 million or more in any year, so these requirements do not apply.

*H. Review Under the Treasury and General Government Appropriations Act, 1999*

Section 654 of the Treasury and General Government Appropriations Act, 1999 (Public Law 105-277) requires Federal agencies to issue a Family Policymaking Assessment for any rule that may affect family well-being. This final rule will not have any impact on the autonomy or integrity of the family as an institution. Accordingly, DOE has concluded that it is not necessary to prepare a Family Policymaking Assessment.

*I. Review Under Executive Order 12630*

DOE has determined, under Executive Order 12630, “Governmental Actions and Interference with Constitutionally Protected Property Rights” 53 FR 8859 (March 18, 1988), that this regulation will not result in any takings that might require compensation under the Fifth Amendment to the U.S. Constitution.

*J. Review Under Treasury and General Government Appropriations Act, 2001*

Section 515 of the Treasury and General Government Appropriations Act, 2001 (44 U.S.C. 3516 note) provides for agencies to review most disseminations of information to the public under guidelines established by each agency pursuant to general guidelines issued by OMB. OMB’s guidelines were published at 67 FR 8452 (Feb. 22, 2002), and DOE’s guidelines were published at 67 FR 62446 (Oct. 7, 2002). Pursuant to OMB Memorandum M-19-15,

Improving Implementation of the Information Quality Act (April 24, 2019), DOE published updated guidelines which are available at

<https://www.energy.gov/sites/prod/files/2019/12/f70/DOE%20Final%20Updated%20IQA%20Guidelines%20Dec%202019.pdf>. DOE has reviewed this final rule under the OMB and DOE guidelines and has concluded that it is consistent with applicable policies in those guidelines.

*K. Review Under Executive Order 13211*

Executive Order 13211, “Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use,” 66 FR 28355 (May 22, 2001), requires Federal agencies to prepare and submit to OMB, a Statement of Energy Effects for any significant energy action. A “significant energy action” is defined as any action by an agency that promulgated or is expected to lead to promulgation of a final rule, and that (1) is a significant regulatory action under Executive Order 12866, or any successor order; and (2) is likely to have a significant adverse effect on the supply, distribution, or use of energy; or (3) is designated by the Administrator of OIRA as a significant energy action. For any significant energy action, the agency must give a detailed statement of any adverse effects on energy supply, distribution, or use if the regulation is implemented, and of reasonable alternatives to the action and their expected benefits on energy supply, distribution, and use.

This regulatory action is not a significant regulatory action under Executive Order 12866. Moreover, it would not have a significant adverse effect on the supply, distribution, or use of energy, nor has it been designated as a significant energy action by the Administrator of OIRA. Therefore, it is not a significant energy action, and, accordingly, DOE has not prepared a Statement of Energy Effects.

*L. Review Under Section 32 of the Federal Energy Administration Act of 1974*

Under section 301 of the Department of Energy Organization Act (Public Law 95–91; 42 U.S.C. 7101), DOE must comply with section 32 of the Federal Energy Administration Act of 1974, as amended by the Federal Energy Administration Authorization Act of 1977. (15 U.S.C.

788; “FEAA”) Section 32 essentially provides in relevant part that, where a proposed rule authorizes or requires use of commercial standards, the notice of proposed rulemaking must inform the public of the use and background of such standards. In addition, section 32(c) requires DOE to consult with the Attorney General and the Chairman of the Federal Trade Commission (“FTC”) concerning the impact of the commercial or industry standards on competition.

In this final rule, DOE is codifying the statutory reference to ANSI/AMCA Standard 208–18 as the test method for determining CFEI for large-diameter fans. Because this is a technical amendment for which a general notice of proposed rulemaking is not required and because DOE did not propose the incorporation by reference, section 32 do not apply to this rulemaking.

*M. Description of Materials Incorporated by Reference*

In this final rule, DOE incorporates by reference the test procedure published by AMCA International, titled “Calculation of the Fan Energy Index.” Specifically, the test procedure codified by this final rule references ANSI/AMCA Standard 208-18, (“AMCA 208-18”), “Calculation of the Fan Energy Index,” approved 2018. The procedure defines the fan energy index (“FEI”), outlines the calculations necessary to obtain it, and discusses the test conditions and configurations it applies to. Copies of ANSI/AMCA 208-18 may be purchased from the AMCA International at 30 W. University Drive, Arlington Heights, IL, 60004, or by going to [webstore.ansi.org](http://webstore.ansi.org).

ANSI/AMCA 230-15 was previously approved for IBR in appendix U and the reference continues unchanged.

*N. Congressional Notification*

As required by 5 U.S.C. 801, DOE will report to Congress on the promulgation of this rule prior to its effective date. The report will state that it has been determined that the rule is not a “major rule” as defined by 5 U.S.C. 804(2).

## **Approval of the Office of the Secretary**

The Secretary of Energy has approved publication of this final rule.

## **List of Subjects in 10 CFR Part 430**

Administrative practice and procedure, Confidential business information, Energy conservation, Household appliances, Imports, Incorporation by reference, Intergovernmental relations, Reporting and recordkeeping requirements, and Small businesses.

## **Signing Authority**

This document of the Department of Energy was signed on May 18, 2021, by Kelly Speakes-Backman, Principal Deputy Assistant Secretary and Acting Assistant Secretary for Energy Efficiency and Renewable Energy, pursuant to delegated authority from the Secretary of Energy. That document with the original signature and date is maintained by DOE. For administrative purposes only, and in compliance with requirements of the Office of the Federal Register, the undersigned DOE Federal Register Liaison Officer has been authorized to sign and submit the document in electronic format for publication, as an official document of the Department of Energy. This administrative process in no way alters the legal effect of this document upon publication in the *Federal Register*.

Signed in Washington, DC, on May 19, 2021.

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Treana V. Garrett  
Federal Register Liaison Officer,  
U.S. Department of Energy

For the reasons stated in the preamble, DOE amends part 430 of chapter II of title 10, Code of Federal Regulations as set forth below:

## **PART 430 - ENERGY CONSERVATION PROGRAM FOR CONSUMER PRODUCTS**

1. The authority citation for part 430 continues to read as follows:

**Authority:** 42 U.S.C. 6291-6309; 28 U.S.C. 2461 note.

2. Section 430.3 is amended by:

- a. Revising paragraph (a);
- b. Redesignating paragraphs (b)(2) and (3) as (b)(3) and (4), respectively; and
- c. Adding new paragraph (b)(2).

The revision and addition read as follows:

### **§430.3 Materials incorporated by reference.**

(a) Certain material is incorporated by reference into this subpart with the approval of the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. To enforce any edition other than that specified in this section, DOE must publish a document in the Federal Register and the material must be available to the public. All approved material is available for inspection at the U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Building Technologies Program, sixth Floor, 950 L'Enfant Plaza, SW., Washington, DC 20024, (202) 586-2945, <https://www.energy.gov/eere/buildings/appliance-and-equipment-standards-program>, and may be obtained from the other sources in this section. It is also available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email: [fedreg.legal@nara.gov](mailto:fedreg.legal@nara.gov), or go to: [www.archives.gov/federal-register/cfr/ibr-locations.html](http://www.archives.gov/federal-register/cfr/ibr-locations.html).

(b) \* \* \*

(2) ANSI/AMCA Standard 208-18, ("AMCA 208-18"), Calculation of the Fan Energy Index, ANSI approved January 24, 2018, IBR approved for appendix U to this subpart.

\* \* \* \* \*

3. Appendix U to subpart B of part 430 is amended by:

- a. Removing sections 1.1, 1.3, and 1.4;
- b. Redesignating section 1.2 as 1.1;
- c. Redesignating sections 1.5 through 1.23 as 1.2 through 1.20, respectively;
- d. Revising section 3.5;
- e. Revising the heading for section 4;
- f. Removing the parenthetical “(for all tested settings for large-diameter ceiling fans)” in section 4.(3);
- g. Revising section 4.(4); and
- h. Adding section 5.

The revisions and addition read as follows:

**Appendix U to Subpart B of Part 430—Uniform Test Method for Measuring the Energy Consumption of Ceiling Fans**

\* \* \* \* \*

3.5 Active mode test measurement for large-diameter ceiling fans:

(1) Test large-diameter ceiling fans in accordance with ANSI/AMCA Standard 208-18 in all phases simultaneously at:

(a) High speed, and

(b) 40 percent speed or the nearest speed that is not less than 40 percent speed.

(2) When testing at 40 percent speed for large-diameter ceiling fans that can operate over an infinite number of speeds (e.g., ceiling fans with VFDs), ensure the average measured RPM is within the greater of 1% of the average RPM at high speed or 1 RPM. For example, if the average measured RPM at high speed is 50 RPM, for testing at 40% speed, the average measured RPM should be between 19 RPM and 21 RPM. If the average measured RPM falls outside of this tolerance, adjust the ceiling fan speed and repeat the test. Calculate the airflow and measure

the active (real) power consumption in all phases simultaneously in accordance with the test requirements specified in sections 8 and 9, AMCA 230-15 (incorporated by reference, see §430.3), with the following modifications:

\* \* \* \*

*4. Calculation of Ceiling Fan Efficiency From the Test Results for LSSD and HSSD ceiling fans:*

\* \* \* \*

(4) Table 3 of this appendix specifies the daily hours of operation to be used in calculating ceiling fan efficiency:

**Table 3 to Appendix U to Subpart B of Part 430: Daily Operating Hours for Calculating Ceiling Fan Efficiency**

<b>Daily Operating Hours for LSSD Ceiling Fans</b>		
	No Standby	With Standby
High Speed	3.4	3.4
Low Speed	3.0	3.0
Standby Mode	0.0	17.6
Off Mode	17.6	0.0
<b>Daily Operating Hours for HSSD Ceiling Fans</b>		
	No Standby	With Standby
High Speed	12.0	12.0
Standby Mode	0.0	12.0
Off Mode	12.0	0.0

\* \* \* \*

*5. Calculation of Ceiling Fan Energy Index (CFEI) From the Test Results for Large-Diameter Ceiling Fans:*

Calculate CFEI, which is the FEI for large-diameter ceiling fans, at the speeds specified in section 3.5 of this appendix according to ANSI/AMCA 208-18, (incorporated by reference, see §430.3), with the following modifications:

- (1) Using an Airflow Constant ( $Q_0$ ) of 26,500 cubic feet per minute;
- (2) Using a Pressure Constant ( $P_0$ ) of 0.0027 inches water gauge; and



(3) Using a Fan Efficiency Constant ( $\eta_0$ ) of 42 percent.

4. Section 430.32 is amended by:

- a. Revising paragraph (s)(2)(i);
- b. Redesignating (s)(2)(ii) as (s)(2)(iii); and
- c. Adding new paragraph (s)(2)(ii).

The revision and addition read as follows:

**§430.32 Energy and water conservation standards and their compliance dates.**

\* \* \* \* \*

(s) \* \* \*

(2)(i) Ceiling fans manufactured on or after January 21, 2020, shall meet the requirements shows in the table:

Product Class as Defined in Appendix U	Minimum Efficiency (CFM/W) <sup>1</sup>
Very small-diameter (VSD)	$D \leq 12$ in.: 21 $D > 12$ in.: $3.16 D - 17.04$
Standard	$0.65 D + 38.03$
Hugger	$0.29 D + 34.46$
High-speed small-diameter (HSSD)	$4.16 D + 0.02$

<sup>1</sup> D is the ceiling fan's blade span, in inches, as determined in Appendix U of this part.

(ii) Large-diameter ceiling fans manufactured on or after January 21, 2020, shall have a CFEI greater than or equal to-

(A) 1.00 at high speed; and

(B) 1.31 at 40 percent speed or the nearest speed that is not less than 40 percent speed.

\* \* \* \* \*